CLAIMS

I claim:

1. A vibrating screen for separating fine materials from coarse materials, comprising;

a frame having a vertical tall end and a vertical short end;

a screen box having an upper end, a lower end, a top screen therein, and an inclination from a horizontal plane;

a first pair of springs affixed to said tall end and said upper end for supporting said upper end over said tall end;

a second pair of springs affixed to said short end and said lower end for supporting said lower end over said short end;

an eccentric shaft affixed to said screen box and a drive means affixed to said frame and said eccentric shaft for rotating said eccentric shaft and for imparting a reciprocal movement to said screen box, and

a loading pan affixed to said upper end of said screen box; said loading pan having a central region set substantially in line with said first pair of springs.

2. The vibrating screen as claimed in **claim 1**, further comprising rigid structural members extending under said screen box and said loading pan for maintaining said loading pan in a same plane as said screen box.

3. The vibrating screen as claimed in **claim 2**, wherein said loading pan is wider than said screen box, and has sloped sides forming a funnel on said upper end of said screen box.

4. The vibrating screen as claimed in **claim 3**, wherein each of said sloped sides makes an angle of between 120^0 and 150^0 with a side of said screen box

5. The vibrating screen as claimed in **claim 3**, wherein said loading pan also has inclined sides and a plated bottom surface.

6. The vibrating screen as claimed in **claim 2**, wherein said loading pan is 60% wider than said screen box.

7. The vibrating screen as claimed in **claim 1**, wherein each of said first and second pairs of springs have torsion bushings therein and a pair of arms joining said torsion bushings and forming an acute angle pointing toward said lower end.

8. The vibrating screen as claimed in **claim 7**, wherein each of said pair of arms comprises an upper arm angled downward from said inclination of said screen box.

9. The vibrating screen as claimed in **claim 7**, wherein said inclination of said screen box is between 18^0 and 22^0, and said acute angle of said pair of arms in each of said springs is between 45^0 and 90^0.

10. A vibrating screen for separating fine materials from coarse materials, comprising;

a frame having a vertical tall end and a vertical short end;

a screen box having an upper end, a lower end, a top screen therein, and an inclination from a horizontal plane;

a first pair of springs affixed to said tall end and said upper end for supporting said upper end over said tall end;

a second pair of springs affixed to said short end and said lower end for supporting said lower end over said short end, and

an eccentric shaft affixed to said screen box and a drive means affixed to said frame and said eccentric shaft for rotating said eccentric shaft and for imparting a reciprocal movement to said screen box,

each of said first and second pairs of springs having torsion bushings therein, and a pair of arms joining said torsion bushings and forming an acute angle pointing toward said lower end.

11. The vibrating screen as claimed in **claim 10**, wherein said inclination of said screen box is between 18^0 and 22^0, and said acute angle of said pair of arms in each of said springs is between 45^0 and 90^0.

12. The vibrating screen as claimed in **claim 10**, further comprising a loading pan affixed to said upper end of said screen box, and rigid structural members extending under said screen box and said loading pan for maintaining said loading pan in a same plane as said screen box.

13. The vibrating screen as claimed in **claim 12**, wherein said loading pan is wider than said screen box.

14. The vibrating screen as claimed in **claim 13**, wherein said loading pan has sloped sides forming a funnel on an upper end of said screen box.

15. The vibrating screen as claimed in **claim 12**, wherein said loading pan has a central region set vertically in-line with an axis of said first pair of springs.

16. The vibrating screen as claimed in **claim 10**, further comprising a loading pan affixed to said upper end of said screen box, said loading pan having a plated bottom surface enclosed on three sides.

17. The vibrating screen as claimed in **claim 16**, wherein said plated bottom surface is inclined at a steeper angle than said top screen.

18. The vibrating screen as claimed in **claim 14**, wherein said loading pan is 60% wider than said screen box.

19. A vibrating screen for separating fine materials from coarse materials, comprising;

a frame having a vertical tall end and a vertical short end;

a screen box having an upper end, a lower end, a top screen therein, and an inclination from a horizontal plane;

a first pair of springs affixed to said tall end and said upper end for supporting said upper end over said tall end;

a second pair of springs affixed to said short end and said lower end for supporting said lower end over said short end;

an eccentric shaft affixed to said screen box and a drive means affixed to said frame and said eccentric shaft for rotating said eccentric shaft and for imparting a reciprocal movement to said screen box;

a loading pan affixed to said upper end of said screen box, and

rigid structural members extending under said screen box and said loading pan for maintaining said loading pan in a same plane

as said screen box;

said loading pan having a central region set substantially over an axis of said first pair of springs; and

each of said first and second pairs of springs having torsion bushings therein, and a pair of arms joining said torsion bushings and forming an acute angle pointing toward said lower end.

20. The vibrating screen as claimed in **claim 19**, wherein said inclination is between 18^0 and 22^0, and said acute angle is between 45^0 and 90^0.